METHOD OF REDUCING SHIELD SHORTS IN A HIGH LINEAR DENSITY READ HEAD WITH A CONTIGUOUS JUNCTION

ABSTRACT OF THE DISCLOSURE

A method includes forming a nonmagnetic electrically insulative read gap material layer, forming a sensor material layer on the read gap material layer, forming a mask on the sensor material layer with a width for defining a track width of the sensor, milling exposed portions of the sensor material layer to form a sensor with first and second side walls that are spaced apart by the track width and first and second read gap material layers, continuing to mill into the first and second read gap material layers to form the first and second read gap material layers with first and second depressions, forming first and second refill gap layers in the first and second depressions and on the first and second side walls of the sensor, milling portions of the first and second refill gap layers on the first and second side walls until at least a portion of each of the first and second side walls is exposed and electrically connecting first and second hard bias and lead layers to the first and second side walls.